



LAKE COUNTY
BOARD OF COUNTY COMMISSIONERS
County Procedure

Title: LOCKOUT/TAGOUT PROGRAM

Number: ES-5.01.09
Approved: October 12, 2012
Cancels: Lockout/Tagout
Program ES-5.01.09
dated April 5, 2012
Originator: Human Resources
Review: October 12, 2017

I. PURPOSE AND SCOPE

The purpose of this document is to provide a written description of Lake County Board of County Commissioner's (BCC) Lockout/Tagout Program. The purpose of the Lockout/Tagout Program is to prevent injury or property damage due to the accidental release of hazardous energy.

II. REFERENCES

Employment Policies Manual, 10/1/11, 5.1 Safety Policy

III. APPLICABILITY

This Procedure applies to BCC employees who repair, clean, and/or service machinery or systems and who must perform lockout and/or tagout as a means of positive control to prevent the accidental starting or activating of machinery.

IV. PROCEDURES

A. Responsibilities

1. Individual County departments are responsible for the expense, determination and identification of the positions that must adhere to the County's Lockout/Tagout Program. Additionally, individual departments, in collaboration with Human Resources, are responsible for developing internal area-specific guidelines that follow this Procedure and are specific for the employees.

2. Supervisors will be responsible for implementing the County's Lockout/Tagout Program, enforcing the program, ensuring compliance with the procedures within the department/divisions/sections, and conducting the inspections and training of the authorized employees. Supervisors should conduct Pre-Lockout/Tagout Meetings to address the method used to track who is included in the lockout/tagout, and any "sign on and sign off" systems used to track employees covered by the lockout/tagout.
3. Authorized employees are responsible for following established lockout/tagout processes and procedures. An authorized employee is defined as a person who locks out or tags out machines or equipment in order to perform servicing or maintenance on that machine or equipment. Before proceeding with such work, energy sources must be deactivated, locked out, tagged and tested to ensure they are de-energized.
4. Departments shall provide authorized employees with lockout/tagout devices such as locks, tags, hasps, etc. with which to lockout/tagout the equipment. Only the authorized employee shall have a key to the lock being used to lockout the equipment. If a second key is available to be used to remove an authorized employee's lock(s), it shall be maintained under lock and key by the Supervisor and only used under the conditions set forth in Item F. of this Procedure.
5. Affected employees are defined as employees whose jobs require them to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout/tagout, or whose jobs require them to work in an area in which such servicing or maintenance is being performed. All affected employees are responsible for ensuring they do not attempt to restart or re-energize machines or equipment that are locked out or tagged out.

B. Preparation for Lockout/Tagout

The lockout/tagout process prevents injuries from the result of hazardous energy release, inadvertent startup, energization or operation of equipment, or processes. Employees who are required to utilize the lockout/tagout process must be knowledgeable of the different energy sources and the proper sequence of shutting off or disconnecting energy means.

1. Lockout: The purpose of a lockout/tagout device is to protect the authorized employee by allowing him/her to maintain control over the equipment.
 - a. Group Lockout: A group lockout consists of using a single lock and lockbox. Each authorized employee shall affix a personal lockout or tagout device to the group lockout device or group lockbox when he or she begins work, and

shall remove those devices when he or she stops working on the machine or equipment being serviced or maintained.

- b. Removing Lockouts: Lockouts may be removed in order to determine if the repairs have been made properly (a test run); however authorized employees shall first ensure that no employees are at risk of being injured when the equipment is activated. If further work must be done, the lockouts shall immediately be put back in place.
2. Tagout: The purpose of a tagout is to use "Danger Identification Tags" to identify the authorized employee who has locked out equipment and the date the equipment was locked/tagged out. In situations where equipment cannot be physically locked out, the equipment must be tagged out.
 3. Under NO circumstances will an employee who is leaving the site leave his lock and tag on equipment without notifying the area supervisor responsible for the equipment and updating of the Tag.
 4. In preparation for lockout, an initial survey must be made to locate and identify all energy isolating devices to be certain which switch, valve, or other energy isolating devices apply to the machine/equipment to be locked out.

C. Energy Sources

1. All lockouts/tagouts shall be carried out by de-energizing the equipment to control the accidental release of hazardous energy.
2. Types of energy sources are Electrical, Hydraulic or Pneumatic, Fluids and Gases, and Mechanical (including gravity). Before any work begins, all stored or residual energy (such as that stored in capacitors, spring elevated machine members, rotating flywheels, hydraulic systems, air, gas, steam, water pressure, thermal energies, etc.) shall be de-energized and the equipment shall be reduced to a zero energy state. This may involve but is not limited to:
 - Discharging capacitors on electrical equipment
 - Venting and drawing pressurized fluids and gases
 - Cooling off hot equipment
 - Blocking of all machinery components, which could move, rotate, or fall
 - Attaching electrical grounding devices
3. If stored energy cannot be relieved due to equipment design or infeasibility, the lockout shall include a blocking device that shall protect employees from the unexpected release of stored energy.

4. Types of Energy Sources

a. Electrical:

- (1) Shut off power at machine and disconnect.
- (2) Disconnect the machine (i.e., machine must be locked or tagged).
- (3) Press start button to see that correct systems are locked out.
- (4) All controls must be returned to their safest position.
- (5) Points to remember:
 - If a machine or piece of equipment contains capacitors, it must be drained of stored energy.
 - Possible disconnecting methods include the power cord, power panels (look for primary and secondary voltage), breakers, the operator's station, motor circuit, relays, limit switches, and electrical interlocks.
 - If the electrical energy is disconnected by simply unplugging the power cord, the cord must be kept under the control of the authorized employee or the plug end of the cord must be locked out or tagged out.

b. Hydraulic/Pneumatic:

- (1) Shut off all energy sources (pumps and compressors). If the pumps and compressors supply energy to more than one (1) piece of equipment, lockout or tagout the valve supplying energy to the piece of equipment being serviced.
- (2) Stored pressure from hydraulic/pneumatic lines shall be drained/bled when released. Stored energy could cause injury to employees.
- (3) Make sure controls are returned to their safest position (e.g., off, stop, standby, inch, jog, etc.).

c. Fluids and Gases:

- (1) Identify the type of fluid or gas.
- (2) Close valves to prevent flow and lockout/tagout.

- (3) Determine the isolating device, then close and lockout/tagout.
- (4) Drain and bleed lines to zero energy state. Some systems may have electrically controlled valves. If so, these systems must be shut off and locked/tagged out.

d. Mechanical:

- (1) Mechanical energy includes gravity activation, energy stored in springs, etc.
- (2) Block out or use die ram safety chain.
- (3) Lockout or tagout safety device.
- (4) Shut off, lockout, or tagout electrical system.
- (5) All de-energized mechanical equipment shall be “start tested” before work proceeds in order to verify that the equipment is in a zero energy state.
- (6) Return controls to safest position.

5. Multiple Energy Sources

More than one (1) energy source may be utilized on some equipment and the proper process must be followed in order to identify energy sources and lockout/tagout accordingly.

For equipment that is powered by more than one source of energy which must be de-activated, special lockout/tagout procedures may be necessary. Such procedures must give a step by step description or checklist of how to correctly de-activate the equipment.

6. Out of Service Equipment

Equipment which that is out of service yet still connected to energy source shall be locked out and tagged.

D. Release from Lockout/Tagout

1. Inspection: Make certain the work is completed and inventory the tools and equipment that were used.
2. Clean-up: Remove all towels, rags, work-aids, etc.

3. Replace guards: Replace all guards possible. Sometimes a particular guard may have to be left off until the start sequence is over due to possible adjustments, however all other guards should be put back into place.
4. Check controls: All controls should be in their safest position.
5. Check work area: The work area shall be checked to ensure that all employees have been safely positioned or removed and notified that the lockout/tagout devices are being removed.
6. Remove lockouts/tagouts: Upon completion of work, each employee must remove his/her lock and tag.
7. Supervisor responsibility: The supervisor of the area is responsible to assure that no employees are in a position to be injured by the inadvertent actuation of the equipment, and that all equipment guards are replaced and safety systems reactivated before the equipment can be put back in service.

E. Service or Maintenance Involving More than One Employee

When service and/or maintenance is performed by more than one (1) employee, each authorized employee shall place his/her own lock or tag on the energy isolating source. This shall be done by utilizing a multiple lock clamp if the equipment is capable of being locked out. If the equipment cannot be locked out, then each authorized employee must place his/her tag on the equipment.

F. Emergency Removal of an Employee's Lockout/Tagout by a Supervisor

Emergency procedures for removing lockout/tagout should include the following:

1. Verification by supervisor that the authorized employee who applied the device is not in the area.
2. Determination of whether it is safe to re-activate the equipment or energy source.
3. Make reasonable efforts to advise the employee that his/her device has been removed. (This can be done when he/she returns to the area.)
4. Ensure that the authorized employee has this knowledge before he/she resumes work at the area.

G. Shift or Personnel Change

If a different employee(s) will continue the work on the next shift or the following day, the employee(s) originally working on the equipment must not remove locks and tags until the relieving employee(s) locks and tags have been placed on the equipment. The supervisor will ensure that lockout/tagout protection will be ensured at all times during personnel and/or shift change.

H. Contractors

The supervisor should obtain information from contractor performing work in the area concerning the contractor's lockout/tagout processes and notify affected County employees of this information.

I. Training

The supervisor or designee will train all authorized employees (those who are charged with the responsibility for the lockout/tagout processes and performing the service or maintenance) and such training must cover, at a minimum, the following areas:

1. Recognition of applicable hazardous energy sources;
2. Details about the type and magnitude of the hazardous energy sources present in the workplace; and
3. The methods and means necessary to isolate and control those energy sources (e.g., elements of the Lockout/Tagout Program Procedure).

The Supervisor will also conduct retraining whenever there is a change in:

- a. Employee job assignment(s);
- b. Machines, equipment, or processes that present a new hazard; or
- c. The lockout/tagout process.

Additional retraining must be conducted whenever inspections reveal, or whenever a supervisor has reason to believe, that there are deviations from or inadequacies in the employee's knowledge or use of the lockout/tagout process.

J. Inspections

Periodically, the supervisor will evaluate the authorized employee(s) utilizing the Lockout/Tagout Program Procedure. Inspections ensure that the Lockout/Tagout Program Procedure continues to be implemented properly and that the employees are familiar with the responsibilities under the Procedure.

The inspections must be designed to correct any deviations or inadequacies observed. The inspection will identify the machine or equipment on which the lockout/tagout process was used, the date of the inspection, the employees included in the inspection, and the name of the person performing the inspection.

K. Record Keeping

Lockout/Tagout Program records shall be maintained within the respective departmental files.

V. **RESERVATION OF AUTHORITY**

The authority to issue or revise this Procedure is reserved to the County Manager. The County Manager may authorize exceptions to this Procedure when deemed appropriate.



David C. Heath
County Manager
Lake County